

What is Claimed is:

1           1.     A method for the qualitative and/or quantitative detection of a ribosome  
2     inactivating protein, comprising:

3                     contacting a sample suspected of containing a ribosome inactivating protein  
4     with an oligonucleotide substrate having a GA<sub>x</sub>GA tetraloop wherein "A<sub>x</sub>" is a nucleoside  
5     comprising an adenine base, derivative or analog thereof; and

6                     detecting the presence of the adenine base, derivative or analog thereof  
7     released from "A<sub>x</sub>" of said tetraloop as an indication of the presence of the ribosome  
8     inactivating protein in the sample.

1           2.     The method of claim 1, further comprising treating the adenine base,  
2     derivative or analog thereof released from said tetraloop with a fluorescent reagent  
3     compound for forming a fluorescent adenine derivative or analog base capable of emitting  
4     fluorescence.

1           3.     The method of Claim 2, wherein the fluorescent reagent compound is an  
2     acetaldehyde.

1           4.     The method of Claim 3, wherein the acetaldehyde is a haloacetaldehyde.



1           12.    The method of claim 9 wherein the solid support is Sepharose.

1           13.    The method of claim 2 further comprising detecting the presence of the  
2   fluorescent adenine derivative or analog base of "A<sub>x</sub>" using fluorescence spectrometry.

1           14.    The method of claim 2 further comprising detecting the presence of the  
2   fluorescent adenine derivative or analog base of "A<sub>x</sub>" using high pressure liquid  
3   chromatography.

1           15.    The method of claim 6 further comprising detecting the presence of the  
2   fluorescent adenine derivative or analog base of "A<sub>x</sub>" using fluorescence spectrometry.

1           16.    A reagent for detecting the presence of ribosome inhibiting proteins, said  
2   reagent comprising an oligonucleotide substrate including a GA<sub>x</sub>GA tetraloop wherein "A<sub>x</sub>"  
3   is a nucleoside comprising a fluorescent adenine derivative or analog base capable of  
4   emitting a fluorescence when released from said tetraloop.

1           17.    The reagent of claim 16 wherein the nucleoside, "A<sub>x</sub>", comprises a 2'-  
2   deoxyribose sugar.

1 18. The reagent of claim 16 wherein the nucleoside, "A<sub>x</sub>", comprises a D-ribose  
2 sugar.

1 19. The reagent of claim 16 wherein the fluorescent adenine derivative or analog  
2 base of the nucleoside "A<sub>x</sub>" is 2-aminopurine.

1 20. The reagent of claim 16 wherein the oligonucleotide substrate comprises 2'-  
2 O-methylated nucleosides.

1 21. The reagent of claim 20 wherein the oligonucleotide substrate is a dAU6  
2 20mer attached to a solid support.

1 22. The reagent of claim 20 wherein the oligonucleotide substrate is a dA 14mer.

1 23. The reagent of claim 20 wherein the GA<sub>x</sub>GA tetraloop comprises  
2 deoxyribonucleosides.

1 24. The reagent of claim 20 wherein the "A<sub>x</sub>" comprises a deoxyribonucleotide.

1           25.    An assay kit for the qualitative and/or quantitative detection of a ribosome  
2    inactivating protein, said assay kit comprising:  
3                    an effective amount of an oligonucleotide substrate having a GA<sub>x</sub>GA tetraloop  
4    wherein "A<sub>x</sub>" is a nucleoside comprising an adenine base, derivative or analog thereof; and  
5                    a vessel for retaining a sample suspected of containing a ribosome  
6    inactivating protein in contact with the substrate.

1           26.    The assay kit of claim 25 further comprising an effective amount of a  
2    fluorescent reagent compound capable of reacting with the adenine base, derivative or  
3    analog thereof released from "A<sub>x</sub>" to form a fluorescent adenine derivative or analog base.

1           27.    The assay kit of claim 25 wherein the adenine base, derivative or analog  
2    thereof is capable of emitting fluorescence when released from the nucleoside, "A<sub>x</sub>".

1           28.    The assay kit of claim 27 wherein the fluorescent adenine base, derivative or  
2    analog thereof is 2-aminopurine.

1           29.    The assay kit of claim 26 further comprising a fluorescence measuring  
2    apparatus.

1           30.    The assay kit of claim 27 further comprising a fluorescence measuring  
2    apparatus.